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Fish Tales

By Sydney Smith

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Earlier this month, the state of California announced plans to sue sixteen national restaurant chains. Their crime? Serving fish. That's right. Fish. The healthy food. Under the state's Proposition 65, it's illegal to expose another Californian to chemicals known to cause reproductive toxicity. And by virtue of their aquatic habitat and their position in the food chain, fish contain one of the toxins on California's long list of offending chemicals - mercury.

There's no doubt that mercury is toxic. It causes brain damage, and in high enough concentrations, death. It may have killed Sir Isaac Newton, or at least contributed to his eccentricity. It gave us the phrase "mad as a hatter," a reference to the unfortunate tendency of felt hat workers to go insane. More recently, in the last century, Iraqis baked wheat treated with a mercury-based fungicide into bread rather than planting it. 500 people died and over 6000 more were hospitalized. . In Japan, an industrial accident dumped mercury into Minamata Bay, contaminating the fish and killing 46 local villagers who ate it. Over a hundred more fell ill. In both episodes, children were born months later with severe neurological problems. The catch is, many of their mothers had never shown signs of mercury poisoning.

Unfortunately, there's also no escaping mercury. It's in rock and in the soil. It's in the smoke and lava of volcanoes. It's also in the smoke of incinerators, crematoriums, and, most of all, the smoke of fossil fuels. This fairly innocuous air-borne form gets deposited in the sediments of oceans, lakes and streams where it's converted by bacteria into a highly tissue-soluble organic form. And it's here that it becomes a problem for California restaurants, for from that point onward, it enters the food chain and eventually ends up in the flesh of fish.

Yet, as ubiquitous and as toxic as mercury is, mercury poisoning is rarely seen in practice, outside of accidental occupational exposures. There have been no case reports of acute mercury poisoning from eating commercial fish. "Mad as a fisherman" isn't in our vocabulary. There haven't even been case reports of birth defects associated with eating commercial fish. What's more, although we routinely screen children for environmental lead exposure, we don't screen them

for mercury exposure. And while we routinely screen pregnant women for infectious diseases that can harm their unborn children, we don't screen them for mercury exposure. So why is California suing every seafood restaurant within its borders for serving fish?

The answer lies in our ever decreasing tolerance for risk. We know that at some certain level mercury is toxic. We know that the developing fetus and infants are especially vulnerable to it. What we don't know, is how much mercury exposure it takes to cause that damage. Two benchmark studies have tried to clarify the issue. Both were well-designed. Both collected information on mercury levels in pregnant women and in their babies. Both tracked the subsequent intellectual development of the children over several years. Both limited their observations to island populations whose predominant exposure to mercury is through eating seafood. One took place in the Faroe Islands in the North Atlantic. The other, in the Seychelles Islands in the Indian Ocean. In the Faroe Islands, where the predominant seafood is whale meat, subtle changes in some measures of intellect were found with increasing levels of prenatal mercury exposure. In the Seychelles, where fish is the predominant food, children with higher mercury levels at birth actually fared better intellectually. (That may not be as crazy as it seems. There's some evidence that low doses of some toxins could be beneficial.)

When two similar studies show such strikingly different results, it usually means one of two things - either there's some uncontrolled interfering variable (for example, the difference between eating whales and eating fish) or the results are so marginal as to be of no significance in the real world. This stunning difference didn't stop the National Academy of Sciences from endorsing the Faroe Island study as the more legitimate, however. When asked by Congress to help settle the dispute between the FDA and the EPA over acceptable mercury levels in fish, the Academy acknowledged the strengths and weaknesses of both studies, but chose the Faroe study as the gold standard for toxicity levels because a "positive study will provide the strongest public-health basis" for assigning a toxic level. In other words, better safe than
sorry.

But playing it too safe can make us all sorry. It was a better-safe-than-sorry philosophy that led the FDA to mandate the removal of the mercury-containing preservative thimerosal from childhood vaccines, even though there was absolutely no indication that it was harmful. The result? Class-action lawsuits against vaccine manufacturers, and subsequent vaccine shortages. The EPA now says that "there is no safe level of methylmercury in the blood." Stringent rules to reduce the mercury output of U.S. smokestacks, which currently only contribute to 1% of the global mercury content in water, could cost industry billions of dollars - costs that will be passed on to the consumer. Fishermen who harvest tuna and other FDA-targeted fish could find their livelihoods threatened. And the

California restaurants? They face fines of up to $2,500 for each day they served targeted fish since 1991. That's enough to bankrupt even the most profitable restaurant chain. And for what? Certainly not for any measurable improvement in health.

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